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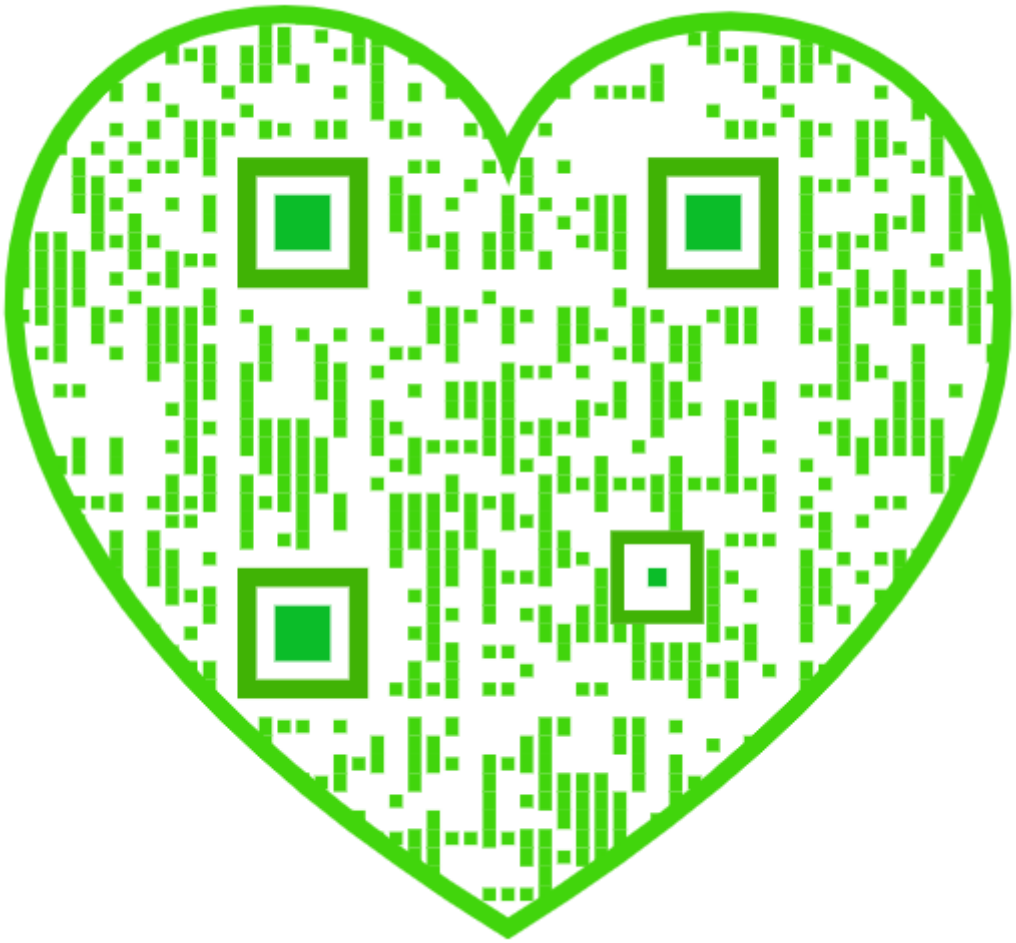

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FRUIT BRANCH

CIRCULAR No. 27

TRANSFERRING OF BEES

By

F. ERIC MILLEN, Provincial Apiarist

A Movable-Frame Hive.

TORONTO, ONTARIO, MAY, 1920

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Ontario Department of Agriculture

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TRANSFERRING OF BEES

F. ERIC MILLEN, Provincial Apiarist

Beekeepers cannot be classed among the successful if they continue to keep bees in box hives when all should produce maximum crops. Box hives should be succeeded by movable-frame hives for the following reasons:

A Box-Hive.

Bees in box-hives cannot be managed so that the beekeeper is the master.

It is impossible to control foulbrood in box-hives.

Bees in box-hives swarm excessively.

The keeping of bees in box-hives usually means a neglectful beekeeper. You should not belong to this class.

There are many ways by which bees can be transferred from any kind of box-hive into one of the movable-frame type. The beekeeper should carefully read the following directions and then proceed with the method that best suits his particular case.

The Heddon Method.

This plan is easily followed by the most inexperienced of beekeepers. When employing the Heddon method the movable-frame hive is made ready with frames of foundation just as one prepares a hive for a swarm. The operator provides himself with a smoker, hive-tool, veil, empty box

Drumming the Bees from the Box-Hive.

and a hammer or other tool with which to drum on the box-hive. When ready to transfer, the box-hive should be removed to a place a few feet from its old stand and the newly prepared hive put in its place, ready to receive all the bees that return to the old stand while the transfer is being made.

When preparations have been completed and the bees subdued with smoke, pull off a part of the top or cover and turn the box-hive upside down, tilting it so that the back is a few inches higher than the front. This operation makes it possible to smoke the bees from beneath. Next place an empty box on top and be sure that the end of the box comes even with the back of the box-hive so that the bees have a continuous wall to

climb. Smoke the bees from below and drum on the sides of the hive, near the bottom at first. After drumming a few minutes and using the smoker occasionally, a cluster of bees will be found in the box when it is taken off the box-hive. The beekeeper should search carefully among the bees in this cluster to see if the queen is present; if she cannot be found in the cluster, shake the bees out in front of the new hive on a light cloth or paper and as the bees enter the hive, watch to see if the queen is among them.

To succeed with the Heddon method the queen must be drummed out from the box-hive and introduced into the movable-frame hive. If the beekeeper is not quite sure that he will be able to recognize the queen,

The Self Transfer Method, Movable-Frame Body on Top.

he should place a drone-trap or a piece of queen-excluder at the entrance of the new hive; in this way he will be certain to find the queen if she is present.

When the queen and about two-thirds of the bees have been drummed out, turn the box-hive right side up, replace the cover and set it on its bottom-board directly behind the new hive, with the entrance at right angles to the entrance of the new hive.

After twenty-one days the worker brood in the old hive will have emerged and the remaining bees can then be drummed out, by the same method as that formerly used. These bees should be united with those in the movable-frame hive. When uniting the two lots, smoke the bees in the new hive a little and they will unite with the newcomers without

trouble. There probably will be a young queen among the last lot of bees in the box-hive, and if the beekeeper has any queenless colonies this young queen can be introduced where needed; otherwise take no notice of her and she will probably succeed her mother in the new hive providing a young queen as head of the colony. After the bees have all been drummed out, remove the combs, extract the honey, render combs into beeswax and use the box-hive for kindling.

The Self Transfer Method.*

At a time when the box-hive is crowded with bees, usually during the fruit bloom and dandelion period or early June, the transfer is commenced. The beekeeper provides a hive-body containing one frame of

A Box-Hive Apiary.

unsealed brood, if available, placed midway between a sufficient number of frames of drawn comb or full sheets of foundation to fill the hive-body. The cover of the box-hive is then removed and the new hive-body, with brood and combs, or foundation, placed on top with an entrance in the box-hive only. In a few days, usually, the queen will be found laying in the upper or movable frame hive-body; but if foundation only is used, it may be a week or two before the queen comes up. As soon as the beekeeper is sure the queen is in the upper hive-body, a queen excluder is placed between the box-hive and the new hive and left there for twenty-one days. When examining for the queen, it is a good plan to slip the excluder between the two hive-bodies before disturbing the bees very much, or the queen is liable to run below. If, on examination, it is found that

* Used with great success by Mr. A. H. Guernsey, Ionia, Michigan.

the queen has not commenced working in the new hive, the excluder must, of course, be removed and replaced after the queen ascends. Supers may be added to the new hive as required and the work of the colony proceeds normally. *The success of this plan depends on getting the queen to ascend and commence working in the new hive, and after that is accomplished, in preventing her return to the box-hive.* After the queen has been established in the upper new hive and when the queen excluder is in position close up the outside entrance to the box-hive and provide an entrance to the new hive by inserting wedges between the two hive-bodies above the excluder. A sloping alighting-board, extending from the new entrance to the ground, will aid the bees in making a speedy entrance. Twenty-one days after the queen excluder was placed between the hives, with the queen above, all the worker bees will have emerged from their cells in the box-hive. Next prepare an escape-board by tacking a strip of wood just over the edge of the circular hole in the bee-escape. This strip is to aid the bees in climbing up to the Porter bee-escape. Place the board, with bee-escape upside down, between the hives in place of the queen excluder. Two days after the escape has been placed between the hive-bodies, all the bees will have gone above and the old box can be broken up and the combs rendered into wax.

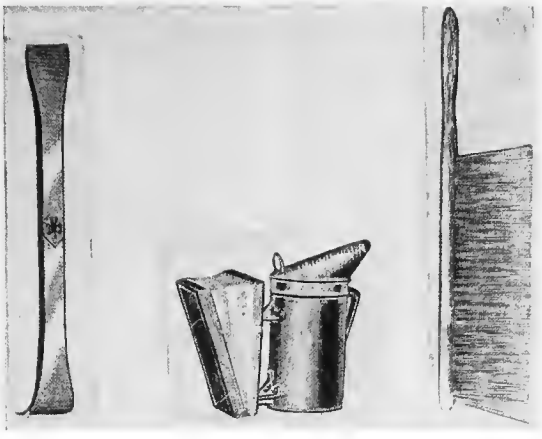
The self transfer method is one of the best if the colonies are strong and no disease exists. Weak or diseased colonies should be treated by another method. See transferring diseased colonies.

The Direct Method.

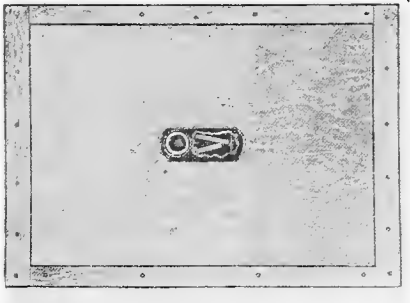
There are one or two variations practised in the direct method of transferring, but in any case the result is the same, in that all the transferring is completed in the one operation and the box-hive is destroyed at once.

If the beekeeper is sure that there is no American foulbrood present, the following method is used:

A new hive is prepared with empty frames. There are needed also an empty box into which to drum the bees, a smoker, veil, hive-tool, butcher knife, large bowl, a board, some fine string and a pail of clean water. Remove the box-hive a few feet from its stand and place the newly-prepared hive where the box-hive stood. This is done to catch the returning bees. Tear off part of the cover from the box-hive and turn it upside down, tilted as in the case of the Heddon method. Now drum the bees up into the box by continued drumming on the sides and occasional puffing in of smoke at the bottom of the box-hive. After a few minutes shake the cluster of bees from the box, in front of the entrance of the new hive, and continue the drumming until practically all of the bees are out of the box-hive, uniting these bees with those already in the new hive. When all the bees that can be drummed out are removed from the box-hive, tear



Hive Tool. Smoker. Bee Brush.



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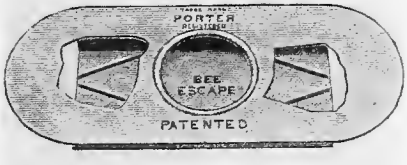

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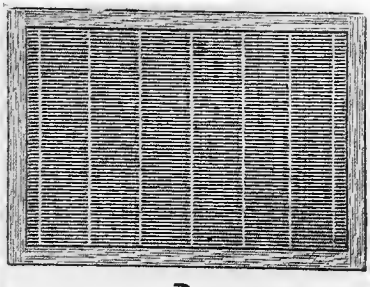

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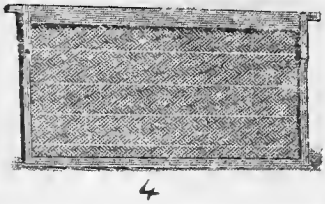

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1. Single Bee Escape in Board.
2. Double Bee Escape (enlarged).
3. Excluder.
4. Wired Frame.

the side open, after first cutting the comb away so that it will not be broken when the side of the hive is torn off. With the aid of the board, which should be a little larger than the frame, we are ready to transfer all the good worker combs from the box-hive to the frames. Lay two or three pieces of string under a frame which should be placed on the board, take a piece of the comb from the box-hive and lay it over the frame and with a sharp knife trim the comb until it can be fitted tightly into the frame, secure the combs firmly in place by tying the string around them in two or three places and put these frames with the comb into the new hive. The bees will fasten the comb to the frames with wax. In selecting the combs to be transferred take first the worker comb with brood, next, the straightest of the empty worker comb, and then, if necessary, one or two frames of comb filled with honey. *Do not use any drone comb.* Fill the hive with frames of drawn comb or foundation if more frames are needed.

The bowl will receive all pieces of broken comb and the honey in this can be used indoors. Use plenty of clean water and you will not find this method a very sticky one, but never attempt it unless you have plenty of water and all necessary appliances ready, and honey flow is on.

Some beekeepers tear the hive to pieces and transfer the combs without drumming the bees out at all. In doing this they destroy a great many bees and the operator cannot work nearly as rapidly when there are so many bees crawling around. It is better to drum the bees out first.

The direct method has an advantage over the "Heddon and Self Transfer Methods" in completing the whole of the transferring at once and in saving the best of the old combs. If the combs in the box-hive are not too old this is quite a saving to the colony as it is not necessary for the bees to build so much new comb. The old box-hive should be removed and destroyed on completing the transfer.

Transferring From Barrels, Hollow Logs, etc.

When the bees are housed in a barrel, a section of hollow log, or other make-shift for a hive, which, on account of its form, may not lend itself easily to one of the methods just explained, the following plan is recommended.

Remove part of the head or top of the barrel and turn it upside down, saw the barrel off close to the combs and tilt as in the case of the box-hives. Elevate the new hive so that the bottom board is even with the upper edge of the barrel. Blow smoke in at the bottom of the inverted barrel and drum on the sides, blowing in occasional puffs of smoke, until all the bees have run up into the new hive. See that the ends, or edges, of the combs in the barrel face the entrance of the hive and are not turned broadside. The bees between the combs will not linger so long if the

smoke gets between the combs quickly and the beekeeper standing opposite the entrance can watch the progress more easily.

After the bees have been drummed out and the new hive set on the stand where the barrel formerly stood, the best combs in the barrel can be used in frames, as in the case of the "Direct Method," providing the beekeeper is certain no American foulbrood exists. If the combs in the barrel are not more than a year old, greater care has to be taken, because newly built combs crush very easily in warm weather, especially if heavy with honey. In drumming bees from boxes or barrels in which there are recently built combs, it is well to separate each comb from its neighbor with one or two wads of paper, so that the combs will not fall together. This also insures room for the bees to pass up into the hive freely.

Transferring from Buildings, Bee Trees, etc.

Sometimes a colony of bees will hive itself in a cavity in a building or in the cavity of a tree, which for some reason cannot be cut open. Whenever a swarm occupies a place where none of the preceding methods can be used, we must proceed in a different manner. The combs and a few of the bees must be sacrificed, but the honey and almost all of the bees can be saved by using the following method:

At the commencement of the main honey-flow early in June, build a platform large enough to hold a hive of bees and strong enough to hold a large surplus of honey, if honey should be found. Make a nucleus, a two-to-four frame colony, with queen. In making the nucleus the beekeeper will have good success if he proceeds as follows:

Take from two to four frames of sealed emerging brood, without bees, and introduce a queen, or ripe queen cell, screen the entrance of the hive and place the nucleus in a dark place for a day or two. This allows a great many young bees to emerge from the cells and these young bees are not inclined to fight strange bees nor will they leave their new location when placed on the new stand. When the nucleus is ready to be placed on the platform, fill the empty space in the hive with frames of foundation. While the bees are in the cellar set up the platform so that the entrance of the nucleus hive will be very near the flight-hole of the bees in the cavity from which they are to be removed. Cover the flight-hole with a board having a hole in the centre large enough to insert a double Porter bee-escape. Place this board so that the bees can leave and enter the cavity only through the small central hole and leave this hole open for a day or two before fastening in the bee-escape so that the bees will become used to the changed condition. *Search out all other flight-holes and close them. To be successful with this method, all other exits must be closed.* After a day or two place the double Porter-escape in the hole, so that the bees can leave the cavity but cannot return to it. In a short time these bees will unite with those in the nucleus and become a strong

colony, supers should be added as needed. Leave the bee-escape in the hole for about a month and until there is a break in the natural honey-flow. Then remove the escape from the hole and in a short time the bees in the hive will find the honey and completely rob out the old combs. *When the beekeeper allows the bees to rob the honey, he should be sure he has enough supers on the hive for all the honey there is in the cavity.* If the cavity is large and a strong colony has had possession of it for a few years, there may be a large quantity. *After the bees have ceased entering the cavity, the board should be removed and the entrance closed with cement or other material so that bees cannot find lodging there in the future.* The hive may be left on the platform until fall and then removed to the apiary when the bees are not flying and there is no honey-flow. Many of the bees will return to their old stand if moved directly the honey is robbed out, unless the colony is moved a mile or more.

In the districts where foulbrood is prevalent, the beekeepers should close all holes in buildings or trees where bees have died. They should also remove the bees already occupying such places.

Transferring Diseased Colonies.

Whenever the beekeeper has bees infected with American foulbrood, in box-hives, he must modify his method of transferring. *There is only one way in which one can proceed with any degree of success. All the bees must be drummed out as by the direct method.* A new hive with frames having full sheets of foundation should be prepared and placed on the stand formerly occupied by the box-hive and the drummed bees should be shaken in front upon newspapers weighted down at the corners.

Great care should be taken that none of the honey from the box-hive is spilled on the ground or more infection may follow. Remove the box-hive and burn; this removes any possibility of the bees gaining access to the germ laden honey. After all the bees have entered the new hive, remove and burn the paper.

The Water Method.

Sometimes a beekeeper may buy a few colonies of bees in box-hives late in the season, and may not wish to keep them through the winter in the box-hives. If one has combs of sealed honey, surplus from other healthy colonies, it is a simple matter to transfer the bees from their box-hives to hives containing the frames of honey and to winter them in the new hives.

Early in October, as soon as brood-rearing has ceased, and when the weather is warm enough for bees to fly, prepare a hive-body with frames of honey. Have ready some receptacle for water, wash-tub, boiler or anything large enough and deep enough to allow the box-hive to be entirely

submerged in the water. Then remove the top and bottom of the box-hive, using smoke to subdue the bees, and place the box-hive in the receptacle, which is to hold the water, with the newly prepared hive on top. It is a good plan to place two pieces of wood in the receptacle, on which to stand the box-hive, so that the water can enter easily and quickly. Pour water in the receptacle until the box-hive is just submerged, the bees will then ascend into the newly-prepared hive after which this can be removed and placed on its bottom-board on the stand previously occupied by the box-hive.

The box-hive can be destroyed, the honey removed, and combs rendered into beeswax. In case American foulbrood is present, this transfer amounts to a treatment, but care must be taken to prevent the bees securing honey from the box-hive if disease is present.

When to Transfer.

Naturally, the beekeeper will inquire when is the best time to transfer bees. The experienced beekeeper knows that with proper precautions he can transfer almost at will. The beekeeper with less experience, however, would probably get into trouble, unless he transferred his bees at a seasonable time. *The best time is at the beginning of a good honey-flow. At this time the bees can be handled more easily and the probability of robbing is reduced to a minimum.*

If the honey-flow should suddenly cease after a transfer has been made, it would be well to feed for a few days until the honey flow begins again. In ordinary seasons the bees should secure enough stores to carry them over any break in the flow, unless long continued.

The beekeeper is advised to read each method carefully before deciding on which to follow, and then when he is sure of the directions, to make all preparations before beginning operations. He will then find that transferring bees is a simple and a profitable undertaking.

Apiary of Homer Burke, Highland Creek.
It will be seen that this apiary is well supered up for extracted honey production

Movable-Frame Apiary at Ontario Agricultural College.

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